Order Apodes

Body elongate, cylindrical or compressed. Gill openings rather small. No pseudobranchiae. Premaxillaries not developed as distinct elements. Maxillaries borders mouth. Opercles small, membrane covering large branchial chamber chiefly supported by long branchiostegals. Single pair of dentigerous upper pharyngeals opposed to separate lower phyngeals. Gonducts reduced

to genital pores. Air vessel joined to oesophagus by tube. Scales rudimentary or absent. Lateral line present or absent. Dorsal and anal fins continuous to or with reduced caudal, when present. Pectorals small or absent. Ventrals absent.

A large group of soft rayed fishes, considered by Regan an offshoot of the herring-like fishes. Apparently of low organization, especially the

forms with more simple structure, they are hardly primitive but more likely the modification of a long continued progression, according to their mouth and fins.

Analysis of families

a.' Carencheli. Premaxillary and maxillary distinctly developed; gill openings 2 well separated inferior slits on pharynx. Derichthyidae.

a.² Premaxillaries and maxillaries not distinctly developed.

b.' Skin covered with rudimentary embedded scales, usually of linear form, arranged in small groups obliquely at right angles to those of neighboring groups; tongue with free edges; hind nostril before eyes; pectorals and vertical fins well formed, latter confluent around tail.

c.' Gill openings well separated; branchiostegals long, bent upward behind.

d.' Gill openings lateral; snout conic; jaws not very robust; mouth cleft longitudinal; lips thick; teeth in

villiform bands in jaws and on vomer.
Muraenidae.

d.[2] Gill opening horizontal, inferior.

e.' Snout very blunt; jaws very strong; gape transverse; lips obsolete; teeth blunt, uniserial in jaws. Trimenchelyidae.

e.[2] Snout conic, slender; jaws moderately strong; gape lateral; lips obsolete; teeth acute, in bands in jaws and on vomer. Ophidae.

c.[2] Gill openings inferior, very close together, apparently confluent; branchiostegal rays abbreviated behind; head conic; tongue small; hind nostril before eye. Synaphobranchidae.

b.[2] Scales entirely absent.

f.' Vent median or premedian.

g.' Tip of tail with more or less distinct fin, dorsal and anal confluent

<u>e.'</u>.

around it; tail sometimes ends in long filament; color brown, blackish or silvery, fins often black bordered.

h.' Hind nostril entirely without tube, placed entirely above upper lip.

i.' Vent far behind gill openings.

j.' Snout conic, moderate to elongate, often with strong or well developed dentition.

k.' Pectoral fins well developed.

l.' Body not elevated to greatest depth premedially.

m.' Tongue wide, largely free anteriorly and on sides; no cannes; branchial openings in pharynx wide slits. Leptocephalidae.

m.^{2} Tongue narrow, adnate to mouth floor or only tip slightly free; cannes anteriorly in pairs

and on vomer; branchial openings in pharynx wide slits.

Muroenesocidae.

m.[3] Tongue not free; teeth few, acute, uniserial; branchial openings in pharynx narrow slits.

Nemichthyidae.

l.[2] Body elevated, deepest premedially; snout long, attenuated. Cavenueaenesocidae.

k.[2] No pectorals.

n.' Snout very short and blunt, mouth terminally superior; tail without terminal filament.

o.' Front nostril minute, concealed; hind nostril narrow slit near eye; teeth small, in bands.

Heterocongridae.

o.[2] Nostrils lateral, front one in short tube; teeth uniserial or biserial. Xenocongridae.

n.[2] Snout and jaws much produced,

upper longer.

f.' Snout and jaws straight; vent distant from gill openings.
Nettastomidae.

f.² Jaws long, slender, tapering to points, recurved at tips; vent close to gill opening.
Hemiechthelyidae.

f.² Snout very short, obtuse; teeth small, in broad short villiform bands; pectorals long.
Macrocephenchelyidae.

i.² Vent close behind gill opening; pectorals present or absent. Dysommidae.

h.² Hind nostril close to edge of upper lip; tongue more or less fully adnate to mouth floor; teeth subequal. Echelidae.

g.² Tail tip without rays, projects as firm point beyond dorsal and anal; hind nostril on edge of upper lip; front nostril near snout tip, usually in

small tube; tongue usually adnate to mouth floor. Ophichthyidae.

f.ⁿ Vent far postmedian; vertical fins low feeble folds, rays feeble and distinct only at end of tail; pectorals short, vestigial or absent; teeth uniserial. Rabouridae.

a.² Colocephali. Gill openings small, rounded, leading to restricted interbranchial slits; tongue absent; opercles feebly developed; pectorals usually absent. Echidnidae.

Family Dericthyidae

Body elongated, sometimes slender, with neck like constriction between head and pectoral fins. Head oblong, oval. Snout short. Eye large. Mouth cleft little inclined, extends behind eyes. Teeth conic, in bands in jaws and on vomer. Lips moderate. Tongue moderate. Gill openings inferior, short horizontal slits before pectoral. Lateral line axial. Dorsal anal and caudal confluent. Pectorals short or long,

below middle in body depth.

Bathypelagic. Small plain colored eels with small restricted gill openings and placed inferiorly.

Analysis of genera

a.' Pectoral long; dorsal origin midway between middle of eye and vent; pharynx with neela like construction. Derichthys.

a.² Pectoral short, rounded; dorsal origin but little before anal origin; pharynx not contracted, Bathygenichthys.

1534

Genus Derichthys Gill

Derichthys Gill, American Naturalist, vol. 18, 1887, p. 433. Type Derichthys serpentinus Gill, monotypic.

Body stout, somewhat compressed, especially tail. Pharynx with neck like contraction. Head small, depressed above. Snout truncate as seen from above. Eyes far advanced. Mouth cleft large, lower jaw narrower and included. Teeth small. Nostrils lateral, elongate, before eyes, neither tubular. Branchiostegals 6, slender.

below middle in body depth.

Bathypelagic.

Genus Derichthys Gill

Derichthys

Branchial arches slender.
Lateral line inconspicuous. Dorsal
origin well advanced from vent,
rays flexible, feeble, fin rather
high. Caudal small. Vent nearly
premedian.

1536

Derichthys serpentinus Gill.

Derichthys serpentinus Gill, American Naturalist, vol. 18, 1887, p. 433. N. 39°44'30" W. 71°4', 1022 fathoms. —

Goode and Bean, Oceanic Ichth., 1895, p. 161, pl. 45, fig. 169, a-b (type). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 343. (compiled).

1537

~~Derichtys iselini Borodin~~

? Derichtys iselini Borodin, Proc. New England Zool. Club, vol. 10, Jan. 22, 1929, p. 110. N. 50°41' W. 27°17', 1000 fathoms.

Nettastomella physonema Facciolà

Nettastomella physonema Facciolà,
Bull. Soc. Zool. Ital. Roma, ser. 3,
vol. 3, 1914, p. 47.

7

Order

Heterophthyidae

Bentharchalyx n. g.

B. carteri n. sp.

Leptocephalidae

Acrotama brachyrhynchus n. sp.

Bathycongrus

Bathycongrus megalops n. sp.

" stenops n. sp.

" bleekeri n. sp.

Conophynchus n. g.

C. talabonoides n. sp.

Uroconger Kaup

Bathyuroconger n. subg.

Uroconger n. subg.

U. dentatus n. sp.

Silvettenia parabranchialis n. sp.

Benthenchelys new genus

Type Benthenchelys cartieri new species.

Body moderately long, compressed, little less than twice in tail. Head small, compressed. Snout, short, obtuse. Eye large, advanced before first third in head. Mouth cleft short, not extending beyond eye, lower jaw included in upper. Teeth small, uniserial, rather few and small patch at front of upper jaw. Nostrils lateral on snout, front one

near first third in snout length, hind one nearly 3 times as large and close before eye. Gill openings little inclined from vertical, close before and partly below pectoral base. Lateral line axial. Vertical fins confluent, rather high, dorsal extending but little on trunk. Pectoral placed in lower half of body depth.

Diagnosis. Differs from Derichthys in its entirely different physiognomy, without a contracted neck, the gill

openings lateral and close before pectoral base, dorsal extended very little on trunk and pectoral short and rounded.

(Βερθος, of the depths; Ἔγχελυς, eel.)

Benthenchelys cartieri new species

Depth 25 3/5 to 26, 8 2/5 to 8 1/2 to vent; head 3 1/5 to 3 1/3, 9 1/4 to 10 in total, width 3 to 3 1/5 in its length; head and trunk 2 to 2 1/10 in tail. Snout 6 to 6 1/5 in head; eye 4 1/2 to 5 3/4, little greater than snout or

interorbital; mouth cleft reaches opposite hind eye edge, length 3 to 3 1/5 in head; interorbital 7 to 7 1/2, level. Gill opening 7 1/2 to 11.

Dorsal origin about pectoral length before anal origin; caudal about 2/3 length of eye diameter; pectoral 3 3/5 to 3 7/8 in head.

Brown, jaw with slight dusky tinge, pharynx pale or brownish white, abdomen dark to dusky or neutral gray. Iris dark gray.

Iris all very light brown to brownish white.

Diagnosis. Contained in genus.

Type No. U.S.N.M.

D. 5185. Lusaran Light, N. 23° E., 25.50 miles (N. 10° 5' E. 122° 18' 30"), between Panay and Negros, March 30, 1909. Length 95 to 115 mm., largest of 5 examples the type. In 638 fathoms.

D. 5129. Dulungsin Point, N. 44° E., 3.80 miles (N. 7° 41' 30" E. 122° 1' 45"), Sulu Sea off western Mindanao. In 100 fathoms. February 5, 1908. Length 119 mm.

(For Oscar Cartier, who studied Philippine fishes in 1873.)

Family Muraenidae

Body subcylindrical, compressed behind. Head conic, moderate. Eyes covered with skin, without free lids. Mouth terminal, lateral cleft reaches below eye. Teeth small, cardiform or villiform, in bands. Tongue distinct, free in front and laterally. Opercular bones well developed. Gill openings well separated, vertical, lateral slits, separated by wide interspace. Body covered with very small scales. Lateral line distinct, axial. Dorsal and anal confluent with reduced caudal. Pectoral

Reunion, Seychelles, Ceylon, East Indies, Philippines, Queensland, Polynesia, Hawaii. Known by its slender fusiform appearance, especially by the small pectoral much less than the ventral and. large canine teeth in the outer series of the jaw.

present, rays simple. Vent premedian, usually remote from head.

One living genus, widely distributed in tropical and temperate waters. Contrary to most fish eels descend to the sea for the purpose of spawning, only the young females ascending into fresh water again. The ova are microscopic. The young pass through a metamorphosis like that of the congers.

Genus Muraena Linnaeus

Muraena Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 244. Type Muraena anguilla Linnaeus, designated by Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1865, p. 113.

Murena Rafinesque, Car. Animal. Sicil., 1810, p. 67. Type Muraena anguilla Linnaeus. Error for Muraena.

Anguilla Shaw, General Zool., vol. 4, 1803, p. 15. Type Muraena anguilla Linnaeus, tautotypic.

Tribranchus (Peters) Müller, Abhandl. Akad. Wiss. Berlin, 1844, p. 193. Type Tribranchus anguillaris (Peters) Müller,

monotypic.

Terpolepis Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 225 (172, 208).

Type Anguilla brevirostris Mc Clelland, monotypic.

Head long, rather pointed. Eye rather small, advanced. Teeth in bands in jaws, subequal, large patch on vomer. Lower jaw protrudes. Nostrils superior, well separated, front one with slight tube near end of snout. Gill opening rather small, partly below pectoral base. Body covered with very small, embedded linear scales, oblique, some at

right angles to others. dorsal inserted same distance from head.

Omnivorous voracious fishes, feeding mostly in the mud or along the bottom. Female larger than male, paler, with smaller eyes and higher fins. Female supposed to die after once spawning in the sea. Eels travel overland in wet grass at night, often passing obstructions in this way.

Analysis of species

a.' Space between dorsal and anal origins more than half of head.

b.' Maxillary and mandibulary band of teeth longitudinally divided by an edentulous groove.

c.' dorsal origin nearer vent than gill opening. bengalensis.

c.² dorsal origin nearer gill opening than vent. mauritiana.

b.² Maxillary and mandibulary band of teeth without an edentulous groove.

d.' Mouth cleft reaches hind border of eye (young), full grown about eye diameter behind eye.

e.' Western Indian Ocean. anguillaris.

e.² East Indies. celebesensis.

e.³ China, Formosa, Japan. japonica.

d.² Mouth cleft reaches eben (adult) with hind bolder of eye. reinhardti.

a.[2] dorsal origin close before, above or behind vent; no edentulous groove within bands of jaw teeth.

f.[1] mouth cleft reaches beyond eye, ~~[illegible]~~; eye 1/2 2/5 dussumieri.

f.[2] mouth cleft reaches hind border of pupil or not so far; eye 6 to 7. spengleri.

f.[3] mouth cleft reaches hind border of eye or farther; eye 8 to 12. australis.

1550

Muraena bengalensis Gray

Muraena bengalensis Gray, Illustrat. Indian Zool., Hardwicke, vol. 1, 1830-33 (1832), pl. 95, fig. 5. No locality (Bengal). — Fowler, Hong Kong Naturalist, vol. 3, no. 1, march 1932, p. 49 (compiled). Anguilla bengalensis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 27 (Hooghly River; Madras; Nilgherries; India); — Ann. Mag. Nat. Hist., ser. 4, vol. 12, 1873, p. 250 (Shanghai). Day, Journ. Linn. Soc. London, Zool., vol. 12, 1876, p. 576 (Deccan). — Beavan, Fresh Water Fishes India, 1877, p. 159 (India). — Day, Fishes of India, pt. 4, 1878, p. 659, pl. 168, fig. 1; Fauna British India, Fishes, vol. 1, 1889, p. 86, fig. 35 (fore part of body and dentition). — Rewens, Notes Leyden Mus., vol. 16, 1895, p. 154

(Groot Bastard; Macassar; Java; East Indies; Lake Nelbo, Timor; Lake near Baun), p. 156 (Lake Danau-Naluk, Rotti). — Ishikawa and Matsmura, Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 7. — Günther, Proc. Zool. Soc. London, 1904, p. 91 ( ). — Duncker, Mitteil. Naturh. Mus. Hamburg, vol. 29, 1911, p. 268 (Vakvella, Ceylon). — Boulenger, Cat. Fresh Water Fishes Africa, vol. 3, 1915, p. 7 (part). — Tirant, Service Océanogr. Pêches Indo Chine, 6e note, 1929, p. 179 (Thudaumot).

Muraena maculata (not Lacépède) Buchanan Hamilton, Fishes of Ganges, 1822, p. 23 — day, Fishes of Malabar, 1865, p. 244.

→ Anguilla elphinstonei Sykes, Proc. Zool. Soc. London, vol. 6, 1838, p. 165. Deccan; Trans. Zool. Soc. London, vol. 2, 1841, p. 377, pl. 67, fig. 3. — Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, p. 208 (western India). — Bleeker, Verhand. Batavia. Genootsch. (Nat. Dch. Bengal), vol. 25, 1853, p. 76 (reference). — Weber, Zool. Jahrb. Suppl. Festschr., vol. 15, pt. 1, 1912, p. 578 (Farther India, Burma, Andamans, Sumatra); Siboga Exped., vol. 57, Fische, 1913, p. 32 (reference). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 244 (Serdang, Sumatra;

Java; Menado, Celebes). — Deraniyagala, Ceylon Administrat. Rep., 1925, p. F15.

— Chen, Bull. Biol. Dep. Sun Yat-sen Univ., vol. 1, no. 1, 1929, p. 5, fig. 1 (dentition) (Macao, Amoy, Foochow, Kashein, Ningpo).

Bleeker, Verhandel. Batavia. Genootsch. (Nat. Schth. Bengal), vol. 25, 1853, p. 76 (reference). — Mason, Burmah Nat. Resources, 1860, p. 702 (reference).

Anguilla arracana Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, pp. 178, 209, pl. 6, fig. 2. Sandoway on the Malay coast. — Mason, Burmah Nat. Resources, 1860, p. 702 (reference).

Java; Menado, Celebes). — Deraniyagala, Ceylon Administrat. Rep., 1925, p. F15.V

Anguilla brevirostris McClelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, pp. 177, 208, pl. 5, fig. 1. Bengal and Arracan. — Bleeker, Verhandel. Batavia. Genootsch. (Nat. Ichth. Bengal), vol. 25, 1853, p. 76 (reference). — Mason, Burmah Nat. Resources, 1860, p. 702 (reference).

Anguilla arracana Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, pp. 178, 209, pl. 6, fig. 2. Kandoway on the Malay coast. — Mason, Burmah Nat. Resources, 1860, p. 702 (reference).

Anguilla nebulosa Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, pp. 179, 208, pl. 5, fig. 2. Bengal and Sandoway. — Bleeker, Verhandel. Batavia. Genootsch. (Nat. Sch. Bengal), vol. 25, 1853, p. 153 (76) (Calcutta). — Mason, Burmah Nat. Resources, 1860, p. 702 (reference).

Anguilla variegata Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, pp. 179, 208, pl. 9, fig. 7. Ganges at Behar.

Anguilla marmorata (not Quoy and Gaimard) Kaup, Archiv Naturg., 1856, pt. 1, p. 55 (compiled); Cat. Apod. Fish Brit. Mus., 1856, p. 43 (part).

1555

Muraena mauritiana (Bennett)

Anguilla mauritiana Bennett, Proc. Comm. Zool. Soc. London, 1831, p. 128. Mauritius. — Günther, Cat. Fish. Brit. Mus., vol. 8, 1870, p. 25 (Amboina, Almorah, Ceylon, Philippines, Formosa, types of Anguilla labiosa and A. johannae). — Martens, Preuss. Exped. Ost Asien, vol. 1, 1876, p. 405 (Amboina; Kupang, Timor). — Günther, Philos. Trans. Royal Soc. London, vol. 168, 1879, p. 471 (Rodrigues); Rep. Voy. Challenger, vol. 1, pt. 4, 1880, p. 33 (Mary River, Queensland), p. 36 (fresh water Levuka; Savaii), p. 58 (Lake Waihira, Tahiti). — Meyer, Am. Soc.

Espan̈. Hist. Nat. Madrid, vol. 14, 1885, p. 43 (Manado, Togian, Bay de Tomini, Celebes; Laguna de Bay, Luzon). — Weber, Zool. Ergebn. Reis. Nederl. Ost Indien, vol. 3, 1894, p. 428 (Tempe, Celebes; Bangkalan and Bonca Rivers, Saleyer, Dma River at Endeh, Sumbawa, Flores; Manindjau Lake, Sumatra). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 586 (Luzon, Laguna de Bay). — Boulenger, Proc. Zool. Soc. London, 1897, p. 429 (Minahassa). — Ishikawa and Matsuura, Prelim. Cat. Fishes Imus. Tokyo, 1897, p. 7. — Pellegrin, Bull. Mus. Hist. Nat. Paris, vol. 4, 1898, p. 228

(Saipan, Mariannes). — Jordan and Evermann, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 325 (Kotosho). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 192 (Vaisigana River and Apia, Samoa). — Evermann and Seale, Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 56 (Tarlac). — Seale and Bean, Proc. U. S. Nat. Mus., vol. 33, 1906, p. 239 (Zamboanga). — Steindachner, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 115, pt. 1, 1906, p. 1420 (waterfall of Papaseea, Upolu). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 237 (Calayan, Mindoro); Mem. Carnegie Mus., vol. 4, no.

4, Aug. 28, 1909, p. 171 (copied). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 390 (Pelew Islands, Samoa, Society Islands, Solomons, Jaluit). — Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, 1911, p. 244 (Kusaie, Carolines). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 8 (Padang, Samoa, Philippines). — Weber, Zool. Jahrb. Suppl. Festschr., vol. 15, pt. 1, 1912, p. 582, fig. b (Polynesia, Australia, East Indies, Hong Kong, Philippines, Formosa, Almorah, Ceylon, Mauritius, Johanna, Natal, Mossambique, Zanzibar); Siboga Exped., vol. 57, Fische, 1913, p. 37 (Celebes;

Musa Laut). — Weber and Beaufort, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, 1913, p. 21 (Col Porari et Balade; River Ngoi)! — Pietschmann, Verh. Nat. Jahrb. Nassau, Wiesbaden, pt. 66, 1913, p. 196 (Kaiser Wilhelm's Harbor, New Guinea). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 245, fig. 100 (dentition), fig. 102 (fore part of body) (Lake Tawar, Lake Manindjau, Sumatra; Simalur; Nias; Djember, Java; Flores; Timor; Babber; Lake Tempe, Dongala, Lake Poso, Celebes; Waleyer; Buru; Ambon; Ceram; Musa Laut; Inamapir, Klipang, Tawarin, Humboldt Bay, New

Guinea). — Fowler, Copeia, No. 58, June 18, 1918, p. 62 (Philippines). — Fowler and Bean, Proc. U. S. Nat. Mus., vol. 62, 1922, p. 9 (Zamboanga). — Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 134 (Luzon, Leyte, Mindanao, Sibuyan, Masbate, Polillo, Jolo). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1923, p. 36 (Madagascar). — Deraniyagala, Ceylon Administr. Rep., 1925, p. F15. — Fowler, Bull. Bishop Mus., No. 22, 1925, p. 4 (Guam), p. 31 (Samoa). — Oshima, Annot. Zool. Japon., vol. 11, No. 1, 1926, p. 4 (Kachela, Hainan). — (J. Schmidt) Whitley, Journ. Pan Pacific Res. Inst., vol. 3, No. 1,

Jaw. March 1929, p. 11 (Santa Cruz Islands).
— Chen, Bull. Biolog. dep. Sun Yatsen Univ., vol. 1, no. 1, 1929, p. 5 (compiled).
Muraena mauritiana Bleeker, Nederl. Tijdschr. Dierk., vol. 4, 1873, p. 123. (reference); Rech. Faune Madagascar, Pollen et Van Dam, pt. 4, 1874, p. 72 (reference); Arch. Néerl. Sci. Nat. Harlem, vol. 13, 1878, pp. 38, 56 ( ).— Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1927, p. 259 (Philippines); Mem. Bishop Mus., vol. 10, 1928, p. 36 (Guam, Samoa, Kusaie, Marshalls, Ascension Island, Carolines, Society Islands); vol. 11, no. 5, 1931, p. 315 (references); Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 48 (East Indies, Philippines, Micronesia, Polynesia).

Muraena anguilla (not Linnaeus) Buchanan Hamilton, Fishes of Ganges, 1822, p. 22 ( ).

— Lichtenstein, Descript. Animal. Forster, 1844, p. 257 (Tanna). — Jouan, Mém. Soc. Sci. Nat. Chérbourg, ser. 2, vol. 5, 1870, p. 106 (Seychelles).

Anguilla avisotis Richardson, Voy. Sulphur, Fish, 1844, p. 104, pl. 51, fig. 1. Canton; Ichth. China Japan, 1846, p. 312 (Canton).

Anguilla clathrata Richardson, Voy. Sulphur, Fish, 1844, p. 104. Canton; Ichth. China Japan, 1846, p. 312 (Canton).

Anguilla sinensis Mc Clelland, Calcutta Journ. Nat. Hist., vol. 4, 1844, p. 406, pl. 25, fig. 2, Chusan. — Richardson, Ichth. China Japan, 1846, p. 312 (Chusan). — Jordan and Evermann, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 325 (Taihoku). — Jordan and Richardson, Mem. Carnegie Mus., vol. 4, No. 4, Aug. 28, 1909, p. (Takao). — Lin, Contrib. Biol. Lab. Sci. Soc. China, vol. 5, No. 4, 1929, p. 30, fig. 23 (head) (Amoy). — Herre and Myers, Lingnan Sci. Journ., vol. 10, nos. 2-3, Aug. 1931, p. 248 (Canton).

Muraena sinensis Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1865, p. 57 (Amoy).

Anguilla macroptera Inc Clelland, Calcutta Journ. Nat. Hist., vol. 4, 1844, p. 407, pl. 25, fig. 1. Chusan. — Richardson, Ichth. China Japan, 1846, p. 312 (Chusan). Anguilla labrosa Richardson, Ichth. Voy. Erebus and Terror, 1844-48, p. 48, p. 113. South Seas. — Kaup, Archiv Naturg., 1856, pt. 1, p. 56 (reference). Muraena (Anguilla) macrophthalmos Peters, Monatsb. Akad. Wiss. Berlin, 1852, p. 684. Zambesi.

Anguilla macrophthalma Martens, Reise Ost Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Zambesi at Tette).

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Anguilla labiata Peters, Sitzs. Ber. Akad.
Wiss. Berlin, 1852, p. 124
— Günther, Fishes of Zanzibar, 1866, p. 124
(not text figure of dentition) (part).

..., p. 11 (Copied). — Peters, Reise
Mossambique, 1868, p. 94. — Martens, Reise
Ost Afrika, Decken, vol. 3, pt. 1, 1869, p.
144 (Pangani, Zambesi, Licuare). —
Peters, Monatsber. Akad. Wiss. Berlin,
1876, p. 445 (Mauritius). — Schmeltz,
Cat. Mus. Godeffroy, No. 8, 1881, p. 7
(Ponapé). — Pöhl, Cat. Mus. Godeffroy,

Anguilla labiata Peters, Sitzs. Ber. Akad. Wiss. Berlin, 1852, p. 684.; (Archiv Naturg., 1855, p. 270 (Jette, Boror). — Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 41 (copied). — Peters, Reise Mossambique, 1868, p. 94. — Martens, Reise Ost Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Pangani, Zambesi, Licuare). — Peters, Monatsber. Akad. Wiss. Berlin, 1876, p. 445 (Mauritius). — Schmeltz, Cat. Mus. Godeffroy, No. 8, 1881, p. 7 (Ponapé). — Pöhl, Cat. Mus. Godeffroy,

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Anguilla elphinstonei (not Sykes) Bleeker, Natuurk. Tijdschr. Nederl. Indie, vol. 4, 1853, p. 504.

Muraena maculata (not Buchanan Hamilton) Bleeker, Atlas Ichth. Ind. Neerl., vol. 4, 1864, p. 9, pl. 1, fig. 2 (Java, Bali, Sumatra, Borneo, Celebes, Ternate,

Batjan, Buro, Amboina, Ceram, Luzon).

Anguilla (Muraena) marmorata (not Quoy and Gaimard) Kner, Reise Novara, Fische, 1865, p. 369 (Hong Kong; not Tahiti material). ✓

? Muraena manillensis Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1865, p. 31. Manila Bay; Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 10, pl. 44, fig. 2 (Luzon). — Schmeltz, Cat. Mus. Godeffroy, No. 4, 1869, p. 26 (Kandavau). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 36 (compiled).

Anguilla manillensis Jordan and Evermann, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 325

(Kotosho, Formosa). — Jordan and Thompson, Mem. Carnegie Mus., vol. 4, no. 4, Aug. 28, 1909, p. 171 (copied). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 390 (Ponapé). — Weber, Zool. Jahrb. Suppl. Festschr., vol. 15, pt. 1, 1912, p. 574 (compiled); Siboga Exped., vol. 57, Fische, 1913, p. 32 (reference).

Anguilla johannae Günther, Fishes of Zanzibar, 1866, p. 124, text fig. (dentition). Fresh waters of Island of Johanna. — Martens, Reise Ost Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Johanna).

Anguilla fidjiensis Günther, Cat. Fish. Brit. Mus., vol. 8, 1870, p. 26. Kandavow, Feejees. — Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Kandavow; Tangatabow); No. 7, 1879, p. 59 (Viti and Tonga Islands). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 586 (Luzon; Manilla). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 390 (Viti Levu, Levuka, Kandavow, Nairai).

? Anguilla lateroatrix (not Risso) Günther, Cat. Fish. Brit. Mus., vol. 8, 1870, p. 32 (Ningpo, China). — Sauvage and de Thiersant, Ann. Sci. Nat., ser. 6, vol. 1, Zool., 1874, p. 16 (China).

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Anguilla bengalensis (not Gray) Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Upolu); No. 7, 1879, p. 59 (Upolu). — Pöhl, Cat. Mus. Godeffroy, No. 9, 1884, p. 40 (Upolu). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1900, p. 524 (Samoa); Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 12, 1904, p. (Padang).

Anguilla hildebrandti (Peters) Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p. 499, pl. 49a, fig. 1. North west Madagascar.

depth 14 to 18; head 5 9/10 to 7 1/2, 2 2/3 to 3 to vent, width 1 5/6 to 2 in its length. Snout 4 1/2 to 5 1/8 in head from snout tip; eye 7 1/8 to 12 1/2, 2 to 2 2/5 in snout, 1 4/5 to 2 in interorbital; maxillary 2 3/4 to 3 1/8 in head from snout tip; teeth in rather broad patch in front of each jaw, narrowing posteriorly in jaw; vomerine teeth often not separated from front teeth; interorbital 4 1/2 to 5, flattened. Gill opening 2 to 2 1/2 in mouth cleft.

Scales distinct, arranged in vertical series along sides.

Dorsal inserted little nearer

gill opening than vent; anal origin ↑ pre-median; pectoral 2 3/4 to 3 4/5 in total head length.

Above dark brown, mottled with pale or dull yellowish and olivaceous. Head and trunk below whitish. Narrow pale edge around vertical fins, posteriorly and submarginally narrow dark band around end of tail.

Zanzibar, Mozambique, Natal, Mauritius, Rodriguez, Madagascar, Seychelles, Ceylon, Andamans, East Indies, Philippines, China, Formosa, Japan, Queensland, Melanesia, Micronesia and Polynesia.

10803. Isabel Channel, Basilan Island, south of Zamboanga. September 11, 1909. Length 484 mm.

A 444. Manila market. March 16, 1908. Length 473 mm.

6286 and 6287. Manila market. June 11, 1908. Length 390 to 523 mm.

7893 and 7894. Mariveles River, Mariveles, Manila Bay. January 30, 1909. Length 515 to 575 mm.

9250. Nonucan River, Iligan Bay, Mindinao. August 6, 1909. Length 800 mm.

7885. Pucot River near Mariveles, Manila Bay. January 29, 1909. Length 503 mm.

A 808 and A 809. Zamboanga River. October 9, 1909. Length 468 to 482 mm.

A1240 and A1241. Amban River. December 5, 1909. Length 535 & 888 mm.

A926. Gorontalo market, Gulf of Tomini, Celebes. November 15, 1909. Length 668 mm.

Muraena anguillaris (Müller) Tribranchus anguillaris (Peters) Müller, Abhandl. Akad. Wiss. Berlin, 1844, p. 193.

Anguilla macrocephala (not Muraena macrocephala Le Sueur) Rapp, Jahrb. Ver. Nat. Württemberg, 1849, p. 142, fig. 2 (Port Natal). — Martens, Reise Ost Afrika, Lurchen, vol. 3, pt. 1, 1869, p. 144 (Natal).

Muraena (Anguilla) mossambica Peters, Monatsb. Akad. Wiss. Berlin, 1852, p. 684. Molumbo River, east of Mozambique; Reise Mossambique, 1868, p. 98.

Anguilla mossambica Kaup, Cat. Apodal Fish. Brit. Mus., 1856, p. 41 (copied). — Martens, Reise Ost Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Inhambo Bay 15° S. Lat.). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 28 (compiled). — Weber, Zool. Jahrb., Suppl. Festschr., vol. 15, pt. 1, 1912, p. 590 (compiled); Siboga Exped., vol. 57, Fische, 1913, p. 33 (reference). — Boulenger, Cat. Fresh Water Fishes Africa, vol. 3, 1915, p. 6 (Cape Colony; near Grahamtown; Buffalo River; Durban; Pietermaritzburg; Umfolosi; Zululand; Groot Olifant River; Transvaal). —

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Gilchrist and Thompson, Ann. South African Mus., 1917, p. 466, fig. 112 (from Peters) (M'fongosi, Zululand; Marzemutonto River, Transvaal; Isipingo, Natal); Ann. Durban Mus., vol. 1, pt. 4, 1917, p. 301 (copied).

— Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 177 (Orange River; Liesbeek stream near Cape Colony); pt. 2, Oct. 1927, p. 1018 (remarks).

Muraena (Anguilla) viridescens Peters, Monatsber. Akad. Wiss. Berlin, 1852, p. 684.

Reise Mossambique, 1868, p. 101.

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Anguilla virescens Martens, Reise Ost. Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Licuare). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 35 (Zanzibar; Seychelles); Philos. Trans. Royal Soc., vol. 168, 1879, p. 471 (Rodrigues). — Pfeffer, Jahrb. Hamburg Anst., vol. 10, 1893, p. 41 ( ). — Boulenger, Trans. Linn. Soc. London, vol. 2, pt. 12, 1907-9 (1908), p. 291 (Praslin).

Muraena virescens Bleeker, Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference).

Anguilla delalandei Kaup, Archiv Naturges., 1856, pt. 1, p. 56. (Great Fish Bay, Cape of Good Hope (Paris Museum; no figure or description).

Anguilla delalandii Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 50, pl. 8, fig. 41. Great Fish River at Cape of Good Hope. — Bleeker, Naturk. Tijdschr. Nederl. Indie, vol. 21, 1860, p. 56 (reference). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 33 (South Africa). — Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p. 493. — Gilchrist, Cat. Fishes South Africa, 1902, p. 154 (reference).

↑ Anguilla marmorata (Quoy and Gaimard) Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 43, pl. 6, fig. 32 (head) (Bourbon).

144 (Reunion).

Anguilla capensis Kaup, Abhand. Nat. Ver. Hamburg, vol. 4, pt. 2, 1859, p. 18, pl. 2, fig. 2. Cape of Good Hope. — Castelnau, Poiss. Afrique Australe, 1861, p. 73 (rivers of Cape Colony and Kaffraria).

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↑ Anguilla labiata (Günther, Fishes of Zanzibar, 1866, p. 124, 2 teeth, fig. (dentition). Pangani River; East Central Africa, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 26 (Zanzibar, Port Natal). — Peters, Monatsber. Akad. Wiss. Berlin, 1876, p. 445 (Mauritius). — Gilchrist, Cat. Fishes South Africa, 1902, p. 155.

1869, p. 144 (Seychelles). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 37

—Guichenot, Notes Ile Réunion, vol. 2, 1862, p. 30. — Martens, Reise Ost Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Reunion).

Anguilla capensis Kaup, Abhand. Nat. Ver. Hamburg, vol. 4, pt. 2, 1859, p. 18, pl. 2, fig. 2. Cape of Good Hope. —Castelnau, Poiss. Afrique Australe, 1861, p. 73 (rivers of Cape Colony and Kaffraria).

Anguilla amblodon Günther, Fishes of Zanzibar, 1866, p. 125, text fig. (dentition). Fresh waters of Seychelles. — Martens, Reise Ost Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Seychelles). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 37

(type).

Muraena amblodon Bleeker, Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference).

? Muraena anguilla (not Linnaeus) Jouan, Mém. Soc. Sci. Cherbourg, ser. 2, vol. 5, 1870, p. 106 (Seychelles). — Anguilla sidat (not Bleeker) Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 36 (part).

Anguilla bengalensis (not Gray) Boulenger, Proc. Zool. Soc. London, 1902, pt. 2, p. 224 (Mathoiya River, Kenya District, East Africa); 1907, pt. 1, p. 311 (Groot Olifant River); Cat. Fresh Water Fishes Africa, vol. 3, 1915, p. 7, fig. 5 (South Africa; Tana;

Buffalo River near King Williamstown; Johanna, Camoro Islands). — Gilchrist and Thompson, Ann. South African Mus., 1917, p. 467, fig. 111 (Orange River; Mfongosi, Zululand); Ann. Durban Mus., vol. 1, pt. 4, 1917, p. 300 (reference). — Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 177 (Zululand, Natal, Transvaal, Cape Province).

Anguilla australis (not Richardson) Zool. Jahrb. Suppl., vol. 15, pt. 1, 1912, p. 593 (part). — Boulenger, Cat. Fresh Water Fishes Africa, vol. 3, 1915, p. 9 (part). — Gilchrist and Thompson, Ann. South African Mus., vol. 11, pt. 5, March

20, 1913, p. 469, fig. 114 (compiled). —
Barnard, Ann. South African Mus.,
vol. 21, pt. 1, June 1925, p. 177 (Lake
Teulonde, Zululand).

Muraena celebesensis (Kaup)

Anguilla clebensis Kaup, Archiv Naturg., 1856, pt. 1, p. 56. "Paris" [museum; no figure or description; error].

Anguilla celebesensis Kaup, Cat. Apod. Fish Brit. Mus., 1856, p. 42, pl. , fig. 31. Celebes (error).

Anguilla celebesensis Weber, Zool. Jahrb. Suppl. Festschr., vol. 15, pt. 1, 1912, p. 585, fig. c-f. (Mangareva, Austral Islands, Samoa, Cook Island, Wavau, Tubuai, Marquesas, Tahiti, Aneiteum, Raiatea, Solomon, Roon, Luzon, Australia, East Indies, South Africa, Madagascar); Siboga Exped., vol. 57, Fische, 1913, p.

39 (Salibabu; Nusa Laut). — Weber and Beaufort, Nova Caledonia, Parasin and Roux, Zool., vol. 2, pt. 1, 1913, p. 21 (Mt. Panie); Fisher Indo Austral. Archipelago, vol. 3, 1916, p. 247, fig. 99 (front half of body), fig. 101 (dentition) (Simalur; Nias; Salibabu; Nusa Laut; Timor; Kei; Roon; New Guinea). — Herre, Philippine Journ. Sci., vol. 23, no. 2, 1923, p. 136, fig. 1 (teeth) (Lake Lanao).

Muraena celebesensis Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 115 (on Kaup). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 36 (Rarotonga, Tubuai,

Tahiti, Samoa, Polynesia, Papeete, Society Islands); vol. 11, no. 5, 1931, p. 315 (references).

? Anguilla marmorata Quoy and Gaimard, Voy. Uranie, Zool., 1824, p. 241, pl. 54, fig. 2. Waigiu. — Kaup, Archiv Naturg., 1856, p. 55 (compiled); Cat. Apod. Fish Brit. Mus., 1856, p. 43, pl. 6, fig. 32 (head) (Bourbon). — Guichenot, Notes Ile Reunion, vol. 2, 1862, p. 30. — Schmeltz, no. 1, 1864, p. 10 (South Sea); no. 3, 1866, p. 11 (Samoa); Cat. Mus. Godeffroy, no. 4, 1869, p. 25 (Samoa). — Martens, Reis. Ost. Afrika, Decken, vol. 3, pt. 1, 1869, p. 144 (Reunion). Anguilla (Muraena) marmorata Kner, Reise Novara, Fische, 1865, p. 369 (Tahiti; Hong Kong).

? Anguilla aucklandii Richardson, Ichth. Voy. Erebus and Terror, 1844-48, p. 113, pl. 45, figs. 7-13. Auckland Island. — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 33 (types). — Schmeltz, Cat. Mus. Godeffroy, No. 6, 1877, p. 18 (Gayndah). — Hector, Handbook New Zealand, 1879, p. 16.

Anguilla auclandi Kaup, Archiv Naturg., 1856, pt. 1, p. 56 (reference; error).

Anguilla delalandi Kaup, Archiv Naturg., 1856, pt. 1, p. 56. Great Fish River, Cape of Good Hope (Paris Museum; no description or figure); Cat. Apod. Fish Brit. Mus., 1856, p. 50, pl. 8, fig. 41 (dentition). Great

Fish River of Cape of Good Hope.

Anguilla delalandii Günther, Cat. Fish. Brit. Mus., vol. 8, 1870, p. 33 (South Africa). — Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p. 498 (Mauritius; Madagascar).

Anguilla lalandei Sauvage, Hist. Nat. Madagascar, Poiss., 1891, pl. 50, fig. 6.

Anguilla megastoma Kaup, Archiv Naturg., 1856, pt. 1, p. 56. "Mulgran" (no description or figure); Cat. Apod. Fish Brit. Mus., 1856, p. 50, pl. , fig. 42. "Megrava" (Mulgrave Archipelago?). —

Veale, Occas. Pap. Bishop Mus., vol. 4, No. 1, 1906, p. 5 (Rarotonga, Cook Island). — Jordan and Veale, Bull. Bur. Fisher.,

vol. 25, 1905 (1906), p. 192 (Apia).
Anguilla guttata (Cuvier) Kaup, Cat. Apod. Fish Brit. Mus., 1856, p. 43 (name in synonymy). From Voyage of Peron.
Anguilla otaheitensis Kaup, Abhandl. Geb. Nat. Hamburg, vol. 4, 1860, p. 17, pl. 2, fig. 2. Tahiti. — Günther, Rep. Voy. Challenger, vol. 1, pt. 6, 1880, p. 58 (Lake Waihirra, Tahiti); Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 390 (type; Raiatea and Treasury Islands, Solomons). — Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, 1911, p. 244 (Papeete, Tahiti).
✓Anguilla amboinensis Peters, Monatsb. Akad. Wiss. Berlin, 1866, p. 523. Amboina.

— Károli, Termesz. Fuzetek, Budapest, vol. 1, 1876, p. 405 (Amboina River). — Klunzinger, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 30, pt. 1, 1879, p. 419 (Port Phillip). — Meyer, Anal. Soc. Espan. Hist. Nat. Madrid, vol. 14, 1885, p. 43 (Laguna de Bay, Luzon). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 587 (Luzon, Manila).

Anguilla aneitensis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 34, fig. (teeth). Aneiteum, New Hebrides. — Macleay, Proc. Linn. Soc. New South Wales, vol. 4, 1879, p. 64 (Solomons). — Günther, Rep. Voy. Challenger, vol. 1, pt. 6, 1880, p. 58 (Lake

Waihiria, Tahiti); Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 391 (Aneiteum, Vavu, Tahiti).

Anguilla obscura Günther, Proc. Zool. Soc. London, 1871, p. 673. Kanathea, Fiji. — Schmeltz, Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Viti Islands). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 392 (type).

Muraena japonica (Schlegel)

Anguilla japonica Schlegel, Fauna Japonica, Poiss., pts. 10-14, 1846, p. 258. Japan. — Bleeker, Verh. Batav. Genootsch. (Nal. Ichth. Japan), vol. 25, 1853, p. (19) 51 (Nagasaki); Act. Soc. Sci. Ind. Néerland no. 3, vol. 3, 1857-58, p. 3 (Kioesio), p. 6 (Japan). — Kner, Reise Novara, Fische, 1865, p. 370 (Shanghai). — Sauvage and De Thiersant, Ann. Sci. Nat., ser. 6, vol. 1, Zool., 1874, p. 18 (China). — Martens, Preuss. Exp. Ost-Asien, vol. 1, 1876, p. 405 (Shanghai, Yokohama). — Möllendorff, Journ. North China Branch Roy. Asiatic Soc., Shanghai,

new ser., vol. 11, 1877, p. 105 — Peters, Monatsber. Akad. Wiss. Berlin, 1880, p. 926 (Ningpo). — Károli, Termesz. Füzetek, Budapest, vol. 5, 1881, p. 184 (Ningpo; Yokohama). — Morrison, Ann. Mag. Nat. Hist., ser. 7, vol. 1, 1898, p. (Japan). — Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1900, p. 348 (Yokohama); vol. 23, 1901, p. 842 (Hakodate, Aomori, Same, Matsushima, Sendai, Tokyo, Misaki, Wakanoura, Omura Bay, Kurume, Nagasaki). — Jordan and Fowler, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 417 (Yodo River, Osaka). — Franz, Abhandl. Senckenberg. Gesell.,

vol. 4, Suppl. band 1, 1910, p. 9 (Yokohama; Oyama). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 8 (Godo River, Wakanoura, Matsushima, Kurume). — Tanaka, Fig. Descr. Fishes Japan, vol. 9, Nov. 26, 1912, p. 148, pl. 40, figs. 152 - 154 (Tokyo). — Jordan and Thompson, Mem. Carnegie Mus., vol. 6, no. 4, Sep. 1914, p. 233 (Okayama). — Fowler and Bean, Proc. U. S. Nat. Mus., vol. 58, 1920, p. 308 (Soochow). — Izuniba? and Matsuura, Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920, p. 173 (Mogawa and Taikawa). — Jordan and Hubbs, Mem. Carnegie Mus., vol. 10, no. 2, June 27, 1925.

p. 490 (Mikawa Bay, Himeji; Lake Suwa; Lake Hakone, Fukuoka; Lake Togo; Lake Mikata; Lake Kasumigaura; Soo Chow, China). — ~~Mori~~, Journ. Chosen Nat. Hist. Soc., No. 5, June 10, 1927, p. ( ); ~~No.~~ 6, March 25, 1927, p. 8 ( ). — Nichols and Pope, Bull. Amer. Mus. Nat. Hist., vol. 54, art. 2, Sep. 12, 1927, p. 326, fig. 1 (Hodoa, Hainan). — Evermann and Shaw, Proc. California Acad. Sci., ser. 4, vol. 16, No. 4, Jan. 31, 1927, p. 101 (Shanghai; Hangchow). — Wu, Contrib. Biol. Lab. Sci. Soc. China, vol. 5, No. 4, 1929, p. 29 (Amoy). — Tchang, Contrib. Biol.

Lab. Sci. Soc. China, vol. 4, no. 4, 1929,
f. ( ). — Anonymous,
Illustrat. Jap. Aquat. Animals, vol. 1,
1931, pl. 20, fig. 3. — Herre and Myers,
Lignan Sci. Journ., vol. 10, nos. 2-3,
August 1931, 248 (Canton). — Lowerby,
Naturalist in Manchuria, vol. 4, 1931,
pl. 18.

Muraena japonica Fowler, Proc. Acad.
Nat. Sci. Philadelphia, 1929, p. 592
(Shanghai), p. 601 (Hong Kong); Hong Kong
Naturalist, vol. 3, no. 1, March 1932, p. 49,
fig. 1 (Hong Kong, Japan).

Conger anago (not Schlegel p. 259) Schlegel, Fauna Japonica, Poiss., pts. 10-14, 1846, pl. 113, fig. 2 (error).

Muraena pekinensis Basilewsky, Nouv. Mém. Soc. Nat. Moscow, vol. 10, 1855, p. 246, pl. 3, fig. 2. Pekin.

Anguilla pekinensis Lowerby, naturalist in Manchuria, vol. 4, 1831, p. 109 (Yalu River near Ch'a k'ou).?

Anguilla bostoniensis (not Cuvier) Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 31 (Japan, North China, China, Formosa).

Anguilla vulgaris (not Turton) Steindachner, Denks. Akad. Wiss. Wien, Math.- naturw. Klasse, vol. 59, pt. 1, 1892, p. 370 (Seoul).—

Ishikawa and Matsmura, Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 7. — Steindachner, Wiss. Res. Szechenyi in Ost Asien, 1898, p. 508 (Hong Kong).

Anguilla bengalensis (not Gray) Ishikawa and Matsmura, Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 7.

Anguilla mauritiana (not Bennett) Ishikawa and Matsmura, Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 7.

? Anguilla remifera Jordan and Evermann, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 325, fig. 7. Hokoto, Formosa. — Jordan and Richardson, Mem. Carnegie Mus., vol. 4, no. 4, Aug. 28, 1909, p. 171, fig. 8 (copied).

? Anguilla novaeterrae (not Kaup) Ww, Contrib. Biol. Lab. Sci. Soc. China, vol. 5, no. 4, 1929, p. 31, fig. 25 (head) (Amoy).

Depth 15 3/4 to 24 1/2; head 7 1/3 to 8 4/5, 3 to 3 1/3 to anal origin. width 2 1/2 to 2 3/5, 1 snout 5 to 6 in head from snout tip; eye 6 to 13, 2 in 2 3/5 snout, 1 4/5 to 2 in interorbital; maxillary reaches slightly beyond eye, length 3 to 3 3/5 in head from snout tip; teeth in narrow bands in jaws and on vomer, latter band only extends 1/3 far back as lateral bands; interorbital 5 to 7 3/4, little convex. Gill opening 1 1/3 to 2 in snout.

Skin smooth, with small lozenge shaped scales, close set in skin, well oblique to body axis.

Dorsal origin before first third in length, like anal little higher behind; pectoral 2 2/5 to 4 in total head.

Olive brown above, belly and lower surfaces whitish. Iris brown. Vertical fins brownish. Pectoral pale, whitish below.

China, Formosa, Japan, Korea.

83986 U.S.N.M, Foochow, China.
H. Gist Gee. Length 380 mm.

48193 U.S.N.M. Urakawa, Japan.
A. Herzawa. Length 266 mm.

1599

~~Anguilla~~ reinhardti (Steindachner)

Anguilla reinhardti Steindachner, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 55, 1867, p. 15, figs. (head). Rockhampton, East Australia. — Castelnau, Proc. Zool. Acclimat. Soc. Victoria, vol. 1, 1872, p. 192 (Western Port; Mordialloc River). — Ogilby, Cat. Fishes New South Wales, 1886, p. 58; Proc. Linn. Soc. New South Wales, vol. , 1887, p. 765 (New Caledonia). — Weber, Jenaische Denkschr., vol. 8, 1895, p. 274 ( ); Zool. Jahrb. Suppl., Festschr., vol. 15, pt. 1, 1912, p. 575, figs. a-b (teeth) (North

and East Australia and New Caledonia);
Aiboga Expd., vol. 57, Fasche, 1913, p.
31 (reference). — Weber and Beaufort,
Iova Caledonia, Sarasin and Roux,
Zool., vol. 2, pt. 1, 1913, p. 21 (Tchalabel
Mont Dgnambi; Rive Coné; Cuii; Coindé;
La Foa).

Anguilla reinhardtii Günther, Cat.
Fishes Brit. Mus., vol. 8, 1870, p. 27
(Hawksbury River, Sydney, Cape York,
Australia). — Castelnau, Record London
Internat. Exhib., 1873, pt. 7, no. 5, p. 16
(Victoria). — Macleay, Proc. Linn. Soc.
New South Wales, vol. 6, 1882, p. 267
(Sydney, Hawkesbury, Cape York,

Richmond River). — Ogilby, Handbook of Sydney, 1898, p. 119. — Stead, Fishes of Australia, 1906, p. 43, fig. 15 (New South Wales, Victoria, Queensland). — Mc Culloch, Fishes New South Wales, ed. 2, 1927, p. 23.

Muraena reinhardti Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 36 (compiled).

? Anguilla dieffenbachii Gray, Zool. Miscellany, 1842, p. 73. River Thames, New Zealand; Travels Dieffenbach, Appendix, , p. 225 ( ).

— Richardson, Ichth. Voy. Erebus Terror, 1844-48, p. 113 (no locality). — Kaup, Archiv Naturg., 1856, pt. 1, p. 56 (reference).

Anguilla malgumora (Schlegel) Kaup, Archiv Naturg., 1856, pt. 1, p. 55. "Leyden" [Museum; no description or figure]; Cat. Apodal Fish, Brit. Mus., 1856, p. 42, pl. 6, fig. 30 (Borneo). — Weber, Zool. Jahrb. Suppl., Festschr., vol. 4, pt. 1, 1912, p. 288 (copied) (type); Siboga Exp., vol. 57, Fische, 1913, p. 33 (reference). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 248 (type).

Anguilla (Muraena) malgumora Kner, Reise Novara, Fische, 1865, p. 367 (Australia).

Anguilla marginipinnis Macleay,
Proc. Linn. Soc. New South Wales,
vol. 8, July 17, 1883, pp. 210. Lillesmere
Lagoon, Burdekin River, Queensland.

Muraena dussumieri (Kaup)

Anguilla dussumieri Kaup, Archiv naturg., 1856, p. 56. "Paris" (Museum; no figure or description); Cat. Apodal Fish Brit. Mus., 1856, p. 51, pl. 8, fig. 43 (head and dentition). "Make, in Hindostan."

Anguilla dussumierii Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 37 (copied).

Muraena dussumieri Bleeker, Reck. Faune Madagascar, Pollen et Van Dam, vol. 4, 1874, p. 72 (reference).

Muraena spengeli (Weber)

Anguilla spengeli Weber, Zool. Jahrb. Suppl., Festschr., vol. 15, pt. 1, 1912, p. 591, fig. 9 (teeth). Balik Papan, East Borneo; Siboga Expd., vol. 57, Fische, 1913, p. 33 (reference). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 249 (Simalur; Nias; Papan, Borneo). — Herre, Philippine Journ. Sci., vol. 23, no. 2, 1923, p. 139, pl. 1, fig. 1 (Cotabato River, Mindanao).

Anguilla spengli deraniyagala, Ceylon Administrat. Rep., 1925, p. F15.

Anguilla mowa (not Bleeker 1850) Bleeker, Verhand. Batav. Genootsch (Muraen.), vol. 25, 1852, p. 16 (part).

Muraena malgumora (not Kaup) Bleeker, Atlas Ichth. Ind. Néerland vol. 4, 1864, p. 11 (Java; Borneo).

Inuraena malgumora (not *Kaup*)
Bleeker, Att.

Depth 2 1, 3 in head; head 3 1/8 to vent, 7 7/8 in total; head and trunk 1 1/2 in tail; head width 3 in its length. Snout 5 in head from snout tip; eye 6 2/5, 1 1/3 in snout, reaches 2/3 in eye, 1 1/4 in interorbital; mouth cleft 3 2/5 in head from snout tip; interorbital 5, low, depressed medially. Gill opening 8.

Lateral line distinct, axial.

Dorsal origin begins slightly behind anal origin; caudal 6 1/3 in total head length; pectoral 5 2/3.

Brown above, under surface brownish white, especially on lower surface of head and belly. Dark color of head extends down as narrow streak under eye. Eye grayish. Vertical fins paler brown than back and anal paler than belly, edges of each also narrowly still paler.

Ceylon, Java, Borneo, Philippines.

18467. Sabatik pond. October 5, 1909.

Length 340 mm.

Muraena australis (Richardson)

Anguilla australis Richardson, Proc. Zool. Soc. London, 1841, p. 22. Port Arthur, Tasmania, in fresh water; Trans. Zool. Soc. London, vol. 3, 1841, p. 157 (type). — Jenyns, Zool. Voy. Beagle, Fishes, vol. 4, 1842, p. 142 (New Zealand). — Richardson, Ichth. Voy. Erebus and Terror, vol. 2, 1844-48, p. 112 (Tasmania, New Zealand, Auckland Island). — Kaup, Archiv Naturg., 1856, pt. 1, p. 56 (reference), Cat. Apodal Fish Brit. Mus., 1856, p. 53 (Tasmania, New Zealand, Auckland Island). — Günther, Cat. Fishes Brit. Mus., vol.

8, 1870, p. 36 (types; New Zealand; Australia; South Australia). — Castelnau, Prov. Zool. Soc. Victoria, vol. 1, 1872, p. 192 (Yarra, Victoria, Tasmania); Record London Internat. Exhib., 1873, pt. 7, no. 5, p. 16 (Victoria). — Schmeltz, Cat. Mus. Godeffroy, no. 5, 1874, p. 37 (Viti Levu). — Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, 1878, p. (355) 396 (Port Jackson). — Hector, Handbook New Zealand, 1879, p. 16. — Schmeltz, Cat. Mus. Godeffroy, no. 7, 1879, p. 59 (Viti Levu). — Klunzinger, Sitz. Ber. Akad. Wiss. Wien, math.-naturw. Klasse, vol. 80, pt. 1, 1879, p. 418 (Yarra River). — Macleay, Proc. Linn.

Soc. New South Wales, vol. 6, 1881-82, p. 267 (Tasmania, Victoria, New South Wales). — Ogilby, Cat. Fishes New South Wales, 1886, p. 58. — Perugia, Ann. Mus. Civico Stor. Nat. Genova, vol. 34, 1894, p. 553 (Dinawi, New Guinea). — Ogilby, Handbook of Sydney, 1898, p. 119. — Jordan and Veale, Bull. ~~St.~~ U. Bur. Fisher., 1905 (1906), p. 192 (Vaisigano and Gasegase streams about Apia). — Stead, Fishes of Australia, 1906, p. 44. — Weber, Abhandl. Senckenberg. Nat. Gesell., vol. 34, 1911, p. 21 ( ); Zool. Jahrb., Suppl. Festschr., vol. 15, pt. 1, 1912, p. 593, fig. 11 (Tasmania, New Zealand, Auckland Island, South Australia, New

South Wales, Samoa, Timor, Aru, East Indies, Tahiti, Mozambique, Natal, Bombay, Malabar, Burma, Farther India).

—Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 9 (Victoria, Australia). — Weber, Siboga Exped., vol. 57, Fische, 1913, p. 42 (copied); Nova Guinea, vol. 9, pt. 4, 1913, p. 551 (Lorentz River at Biwak Island). — Boulenger, Cat. Fresh Water Fish. Africa, vol. 3, 1915, p. 9 (part). — Weber and Beaufort, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, 1915, p. 20 (Dubatche, New Caledonia); Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 249 (Belang, Deli, Sumatra; Atjeh; Simalur; Nias; Buitenzorg,

Belassi, Gjiksandi, Java; Lombok; Flores; Timor; Aru; Batjan; Lorentz River, South New Guinea). — Waite, Records South Australian Mus., vol. 2, no. 1, April 23, 1921, p. 48, fig. 72. — Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 138 (Lake Bato, Camarines; Cavite; Guam). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1923, p. 43 (Victoria example). — Deraniyagala, Ceylon Administrat. Rep., 1925, p. F 15. — Mc Culloch, Fishes New South Wales, ed. 2, 1927, p. 23, pl. 8, fig. 77a.

Muraena australis Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 12, pl. 7, fig. 1 (Timor). — Schmeltz, Cat. Mus. Godeffroy, No. 4, 1869, p. 26 (Samusi). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 37 (compiled); vol. 11, No. 5, 1931, p. 315 (compiled).

Anguilla bicolor Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, p. 178, pl. 6, fig. 1. Sandoway on Malay Coast. — Jerdon, Madras Journ. Lit. Sci., 1849, p. 346. — Bleeker, Verhandl. Batavia. Genootsch. (Nat. Ich. Bengal), vol. 25, 1853, p. 76 (reference). — Mason, Burmah Nat. Resources, 1860, p. 702 (reference). — Günther, Cat.

Fishes Brit. Mus., vol. 8, 1870, p. 35 (Java, River Hoogly, Madras, Ceylan). — Beavan, Fresh Water Fishes India, 1877, p. 159 (Bengal; Madras). — Day, Fishes of India, pt. 4, 1878, p. 660, pl. 167, fig. 3, pl. 168, fig. 2 (Andamans). — Schmelty, Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Upolu). — Meyer, Ges. Soc. Espan. Hist. Nat. Madrid, vol. 14, 1885, p. 43 (Manado, Celebes). — Day, Fauna British India, Fishes, vol. 1, 1889, p. 87. — Vinciguerra, Ann. Mus. Civico Stor. Nat. Genova, ser. 2, vol. 9, 1890, p. 358 (Rangoon). — Fowler, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 12, 1904, p. (Padang). — Duncker, Mitteil. Naturh. Mus. Hamburg, vol. 29, 1911, p. 268 (Amuradhapura). — Fowler, Proc. Acad. Nat. Sci. Philadelphia,

1912, p. 9 (Padang and Batu Sangkar, Sumatra).

Anguilla moa Bleeker, Verhandl. Batavia. Genootsch. (Java), vol. 23, 1850, p. 22. Java.

— Kner, Reise Novara, Fische, 1865, p. 369 (no locality).

Muraena moa Bleeker, Atlas Ichth. Ind. Néerland., vol. 4, 1864, p. 11, pl. 4, fig. 1 (Java; Sumatra).

Anguilla mowa Bleeker, Verhandl. Batavia. Genootsch. (Muraen.), vol. 25, 1852, p. 16. Batavia, Banjoemas, Arabarawa, Java.

— Kaup, Archiv Naturg., 1856, pt. 1, p. 56 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 51, pl. 8, fig. 44 (head) (Java).

Anguilla sidat Bleeker, Verhandel. Batavia. Genoots. (Nat. Verh.), vol. 25, 1852, p. 17. Tjikandi, Tjampea, Batavia, West Java. — Kaup, Archiv Naturg., 1856, pt. 1, p. 56 (reference). — Kner, Reise Novara, Fische, 1865, p. 368 (Tahiti). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 36 (type). — Martens, Preuss. Exped. Ost-Asien, vol. 1, 1876, p. 405 (Batavia). — Schmeltz, Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Upolu). — Boulenger, Proc. Zool. Soc. London, 1890, p. 40 (Deli, Sumatra). — Weber, Zool. Ergebn. Reise Nederl. Ost. Indien, vol. 3, 1894, p. 428 (Buitenzorg). — Jordan and Seale,

Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 192 (Apia). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 7, 1910, p. 392 (Tonga).

Muraena sidat B. Leeker, Atlas Ichth. Ind. Néerland, vol. 4, 1862, p. 10, pl. 3, fig. 3 (Java, Nias, Bali, Borneo, Sumatra, Celebes). — Schmeltz, Cat. Mus. Godeffroy, no. 4, 1869, p. 26 (Samoa).

Anguilla bleekeri Kaup, Archiv Naturg., 1856, pt. 1, p. 56. India (no description or figure); Cat. Apodal Fishes Brit. Mus., 1856, p. 52, pl. 9, fig. 45 (head). Java or India.

Anguilla cantori Kaup, Archiv Naturg., 1856, pt. 1, p. 56. Bombay (no description or figure); Cat. Apodal Fish Brit. Mus., 1856, p. 52, pl. 9, fig. 46 (head). Bombay.

Anguilla malabarica Kaup, Archiv Naturg., 1856, pt. 1, p. 56. No locality (Paris Museum); no description or figure); Cat. Apodal Fish Brit. Mus., 1856, p. 52, pl. 9, fig. 47 (head). Malabar.

Anguilla nigro-punctata (Cuvier) Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 53. No locality (Paris Museum example from Voyage of Peron; name in synonymy).

Muraena halmaherensis Bleeker, Nederland. Tijds. Dierk., vol. 1, 1863, p. (154) 158. Gabela, Halmaheira; Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 12, pl. 6, fig. 4 (type). — Schmeltz, Cat. Mus. Godeffroy, No. 4, 1869, p. 26 (Kandavu); No. 7, 1879, p. 60 (Kanathia).

Anguilla halmaherensis Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Kanathia.

? Muraena malgomura (not Kaup) Schmeltz, Cat. Mus. Godeffroy, No. 4, 1869, p. 25 (Upolu).

Anguilla virescens (not Peters) Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Vavay); No. 7, 1879, p. 59 (Hawaii). — Pöhl, Cat. Mus.

Godeffroy, No. 9, 1884, p. 40 (Hawaii). —
Günther, Journ. Mus. Godeffroy, vol. 9,
pt. 17, 1910, p. 392 (Tahiti; Hawaii).

Muraena viridescens Bleeker, Rech. Faune
Madagascar, pt. 4, 1874, p. 72 (reference).

Anguilla australis occidentalis Schmidt,
Trans. New Zealand Inst., vol. 58, pt. 4,
March 19, 1928, p. 388
;
Records Australian Mus., vol. 16, pt. 4, March
28, 1928, pp. 181, 198, 203, figs. 2, 3—8
(graphs), 9d-f (teeth) (Eastern Australia
and Lord Howe Island).

Depth 13 1/2 to 17 3/4; head 7 1/4 to 10, width 2 4/5 to 3, to vent 3 to 4. Snout 5 1/5 to 5 3/4 in head from snout tip; eye 7 1/2 to 12 1/2, 1 3/4 to 2 in snout, to in interorbital; maxillary reaches opposite hind eye edge, length 2 2/3 to 3 2/3 in head from snout tip; teeth in broad bands in jaws and on vomer, almost covers each jaw; interorbital 4 4/5 to 7, convex. Gill opening equals mouth cleft or 2/3 of interorbital.

Scales distinct, imbedded, oblique to body axis.

D. about 220, origin but short space before vent; A. about 200;

caudal 5 2/5 to 5 1/2 in total head length.

dark gray to brown on back, belly and lower surfaces paler to whitish. Iris gray. Vertical fins like back. Pectoral pale.

1 example. A.N.S.P. Padang, Sumatra.
A. C. Harrison and H. M. Miller.
Length 359 mm.

1 example. A.N.S.P. Batu Sanghar,
Sumatra. A. C. Harrison and H. M. Miller.
Length 150 mm.

1 example. A.N.S.P. Victoria, Australia.
Purs. Agnes F. Kenyon. Length 800 mm.

1625

Family Limnichelyidae

Snout very obtuse. Mouth transverse, jaws very strong. No lips. Teeth blunt, pluriserial in young, uniserial with age, in jaws only. Tongue very large, with free edges. Hind nostril before eyes. Gill openings well developed, well separated, horizontal, inferior. Branchiostegals long, bent upward behind. Skin with rudimentary embedded scales. Lateral line present. Pectoral with only 4 radials.

Alabes dorsalis (Richardson)

Cheilobranchus dorsalis Richardson, Ichth. Voy. Erebus and Terror, 1844-48, p. 50, pl. 30, figs. 1-5. North west coast of Australia.

Chilobranchus dorsalis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 18 (Tasmania; Australia; types; types of Cheilobranchus aptenodytum). — Castelnau, Proc. Zool. Soc. Victoria, vol. 1, 1872, p. 190 (reference). — Schmeltz, Cat. Mus. Godeffroy, No. 6, 1877, p. 18 (Sydney). — Klunzinger, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 80, pt. 1, 1879, p. 418 (Murray River). — Macleay, Proc. Linn. Soc. New South Wales, vol. 6, pt. 2, Sep. 12, 1881, p. 266 (North West Australia).

Genus Simenchelys Goode and Bean Simenchelys (Gill) Goode and Bean, Bull. Essex Inst., 1879, p. 27. Type Simenchelys parasiticus (Gill) Goode and Bean, monotypic.

Conchognathus Collett, Bull. Soc. Zool. France, vol. 14, 1889, p. 123. Type Conchognathus grimaldii Collett, monotypic.

Gymnosimenchelys Tanaka, Journ. College Sci. Tokyo, vol. 23, 1910, p. 2. Type Gymnosimenchelys leptosomus Tanaka, monotypic.

Alabes cuvieri. McClelland

Alabes cuverial McClelland, Calcutta

Journ. Nat. Hist., vol. 5, 1845, p. 221.

Indian Ocean (evidently on Cuvier).

Alabes cuvieri Vaillant, Nouv. Arch. Mus.

Hist. Nat., Paris, ser. 4, vol. 7, 1905, p. 149

Body elongate, eel shaped. Head very short, rounded, very obtuse or blunt anteriorly, slightly compressed. Mouth small, entirely anterior. Jaws equal, edges hard. Teeth small, uniserial, rounded, close set, incisor like. No vomerine teeth. Mandible very deep, strong. Tongue broad, somewhat free anteriorly. Premaxillaries and maxillaries of each side coalesced and separated from each other by ethmoid. Lips full. Opercle sabre shaped. Nostrils large, front one with slight rim, not tubular. Gill openings very small, longitudinal, before and below

Genus Alabes Cloquet

Alabes Cloquet, Dict. Sci. Nat., Paris, vol. 1, 1816, p. 99 (on Les Alabès Cuvier, Règne Animal, vol. 2, 1817, p. 235, atypic "Sea of the Indies"). Type Alabes cuveriae Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 221.

Alabis Swainson, Nat. Hist. Animals, vol. 1, 1838, p. 225. Atypic (on Cuvier).

Alaebes Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 336. Atypic (on Cuvier).

Cheilobranchus Richardson, Ichth. Voy. Erebus and Terror, 1844-48, p. 50. Type Cheilobranchus dorsalis Richardson.

pectorals. Scales linear, disposed at right angles. Lateral line faint. Vertical fins confluent around tail, dorsal begins not far behind pectorals. Pectoral short. Vent before anal, median.

One species in deep water, parasitic on larger fishes.

Genus Synbranchus Bloch

Synbranchus Bloch, Naturg. Ausl. Fische, vol. 9, pt. 12, 1795, p. 86. Type Synbranchus marmoratus Bloch, designated by Jordan and Evermann, Genera of Fishes, pt. 1. 1917, p. 53.

Synbranchus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 15. Type Synbranchus marmoratus Bloch.

Unibranchapterura Lacépède, Hist. Nat. Pois., vol. 5, 1803, p. 658. Type Synbranchus marmoratus Bloch, designated by Jordan and Evermann, Genera of Fishes, pt. 1, 1917, p. 68.

Aphisternon Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, pp. 175, 196. Type Aphisternon bengalense Mc Clelland,

1629

Simenchelys parasiticus Goode and Bean

Simenchelys parasiticus (Gill) Goode and Bean, Bull. Essex Inst., vol. 11, 1879, p. 27. Newfoundland Banks.

— Bean, Proc. U. S. Nat. Mus., vol. , 1880, p. 113 (N. 42° 37' W. 66° 55', 200 fathoms). — Jordan and Gilbert, Bull. U. S. Nat. Mus., No. 16, 1882, p. 363 (compiled). — Günther, Rep. Voy. Challenger, vol. 22, 1887, p. 352 (compiled). — Jordan and Davis, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 669 (Grand Banks of Newfoundland). — Goode and Bean, Oceanic Ichth., 1895, p. 139, pl. 43, fig. 161 (N. 38° to 42° W. 60° to 73°; Banquereau; Sable Island Banks; 200 to

designated by Jordan, Genera of Fishes, pt. 2, 1919, p. 220.

Tetrabranchus Bleeker, Naturk. Tijdschr. Nederl. Indië, vol. 2, 1851, p. 69. Type Tetrabranchus microphthalmus Bleeker, monotypic.

Unipertura Kaup, Archiv Naturg., 1856, pt. 1, p. 76. Type Unipertura laevis (Lacépède) Kaup = Ophisternon bengalensis Mc Clelland, orthotypic.

904 fathoms). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 349 (compiled). — Collett, Rés. Camp. Sci. Monaco, fasc. 10, 1896, p. 156, pl. 5, figs. 22-b, pl. 6, fig. 2 (north of Graciosa, north west of São Jorge; south of Flores; — Zugmayer, Rés. Camp. Sci. Monaco, vol. 35, 1911, p. 83 (off Cape Verde Islands, 1300 meters; Azores, 1007 to 1250 meters). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1913, p. 9 (N. 42°37' W. 66°55', 200 fathoms). — Vaillant, Rés. Camp. Sci. Monaco, vol. 52, 1919, p. 135 (off Azores N. 37° to 39° W. 25° to 31°, 880 to 1732 meters).

Figures Deser. Fishes of Japan, vol. 42,

904 fathoms). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 349 (compiled). — Collett, Rés. Camp. Sci. Monaco, fasc. 10, 1896, p. 156, pl. 5, figs. 22-b, pl. 6, fig. 2 (north of Graciosa; north west of São Jorge; south of Flores; south east of Corvo; east of Corvo; south of Pico; between Pico and São Jorge, 544 to 2000 meters). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 9 (N. 42° 37' W. 66° 55', 200 fathoms). — Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 181, pl. 8, fig. 6 (off Cape Point, 810 fathoms). — Tanaka, Figures descr. Fishes of Japan, vol. 42,

Symbranchus afer Boulenger

Symbranchus afer Boulenger, Ann. Mag. Nat. Hist., ser. 8, vol. 4, 1909, p. 430. Port Mansoa, Portuguese Guinea; Cat. Fresh Water Fishes Africa, vol. 3, 1915, p. 2 (types).

? Symbranchus cendree Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 220: Coast of Guinea.

June 4, 1928, p. 810, pl. 183, fig. 476 (Okinoze, off Misaki; off Aitaka, Hokkaido).

Conchognathus grimaldii Collett, Bull. Soc. Zool. France, vol. 14, 1889, p. 122. Graciosa, Fayal, Sao Jorge, Pico, Flores, Corvo, Azores, 844 to 2000 meters.

Gymnocimenchelys leptosomus Tanaka, Journ. College Sci. Tokyo, vol. 23, art. 13, 1908, p. 2, pl. 2, fig. 2. Off Misaki, Sagami.

Simenchelys leptosomus Jordan and Thompson, Mem. Carnegie Mus., vol. 6, No. 4, Sep. 1914, p. 233 (Dgu).

Simenchelys dofleini Franz, Abhandl. Kaiser. Akad. Wiss. Bayern, math.-physik. Klasse, vol. 4, pt. 1, 1910, p. 10, pl. 3, figs. 1-2. Misaki.

Synbranchus bengalensis (McClelland) Ophisternon bengalensis McClelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, p. 197 (204, 220), pl. 11, fig. 1. Bengal. — Kaup, Cat. Apod. Fish Brit. Mus., 1856, p. 121, pl. 15, fig. 76 (head below) (Malabar).

Synbranchus bengalensis Bleeker, Atlas Ichth. Ind. Néerland., vol. 4, 1864, p. 119, pl. (48) 192, fig. 1 (Java, Borneo, Celebes). — Day, Fishes of Malabar, 1865, p. 251. — Schmeltz, Cat. Mus. Godeffroy, ho. 4, 1869, p. 27 (Pelew Islands); ho. 7, 1879, p. 59 (Pelew Islands). — Pöhl, Cat. Mus. Godeffroy, ho. 9, 1884, p. 39 (Pelew Islands). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 416

Depth 10 1/2 to 12 1/4; head 9 3/5 to 13 1/2, width 1 7/8 to 2 1/10; head 5 1/8 to 5 1/3 to anal origin. Snout 3 1/4 to 5 in head; eye 6 to 8, 1 3/4 to 2 in snout, 2 to 2 1/4 in interorbital; mouth 1/2 to eye, width 2 3/3 to 4 in head; small uniserial compressed close set teeth in jaws; interorbital 2 3/5 4 in head, well convex. Gill opening small horizontal slit below pectoral origin, length nearly equals eye, interspace between gill openings equals snout.

Skin smooth, small linear embedded scales disposed obliquely to lateral line.

Dorsal origin head length behind gill opening; anal origin well posterior; caudal 2 to 2 1/8 in head;

(Palima, Celebes; Inimika River, New Guinea). — Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 126 (Manila Bay, Baybay Creek, Apo Reef). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 35 (compiled), vol. 11, no. 5, 1931, p. 315 (reference).

Symbranchus bengalensis Peters, Monatsb. Akad. Wiss. Berlin, 1868, p. 271 (Quinqua River near Calumpit). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 16 (Hooghly River; Philippines; type of Symbranchus guttularis). — Beavan, Fresh Water Fishes India, 1877, p. 158 (Lower Bengal and coast district). — Day, Fishes of India, pt. 4, 1878, p. 657, pl. 167, fig. 2. — Schmeltz, Cat.

2 1/5 to
pectoral, 2 1/2 ~~in head~~, low, upper
median rays longest.

Brown, nearly uniform. Fins
often more brownish.

North Atlantic and western
Pacific.

31669 U.S.N.M. Bangueraux.
G. W. Scott. Length 390 mm.

31727 U.S.N.M. N. 40° W. 68°.
Albatross Station. Length 320 mm.

Mus. Godeffroy, No. 7, 1879, p. 59 (Pelew Islands). — Károli, Termesz. Füzetek, Budapest, vol. 5, 1881, p. 184 (Siam). — Pöhl, Cat. Mus. Godeffroy, No. 9, 1884, p. 39 (Pelew Islands). — Day, Fauna British India, Fishes, vol. 1, 1889, p. 71, fig. 29. — Weber, Zool. Ergebn. Reis. Nederl. Ost Indien, vol. 3, 1894, p. 428 (Palima and Tjeurana River mouth, Celebes). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 586 (Luzon, Manila, Navotas). — Volz, Revue Suisse Zool., vol. 12, 1904, p. 481 ( ). — Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, 1914, p. 275 (New Guinea).

Family Glyphidae

Mouth terminal, lateral cleft extending behind eye. Maxillary slender, articulates with ethmoid near end of snout. Teeth conic, small, in narrow bands in jaws, large and uniserial on vomer. Nostrils lateral. Gill openings separated. Body scaly. Dorsal and anal continuous with reduced caudal. Pectorals present. Vent remote from head.

1635

Genus Hyophis Gilbert

Hyophis Gilbert, Proc. U. S. Nat. Mus., vol. 14, 1892, p. 351. Type Hyophis brunneus Gilbert, monotypic.

No lips. Lower jaw strong. Teeth on head and shaft of vomer continuous. Tongue little developed, with narrow free edge. Nostrils lateral, anterior with short tube near snout tip, posterior close before eye. Gill openings horizontal, inferior, well separated. Branchiostegals 15, not shortened, some curved around and above opercle. Body scaly. Lateral line prominent, dorsal and

anal confluent, rather high, rays visible through skin. dorsal well advanced, begins immediately behind pectoral bases. Anal origin near end of anterior end of body.

Resembles Synaphobranchus, with separated gill slits. Long bowed branchiostegal rays as in Simenchelys.

1637

Glyophis brunneus Gilbert

Glyophis brunneus Gilbert, Proc. U. S. Nat. Mus., vol. 14, 1892, p. 352. Albatross Station 2808, near Chatham Island, Galapagos, 634 fathoms. — Jordan and Davis, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 671 (copied). — Goode and Bean, Oceanic Ichth., 1895, p. 141, pl. 43, fig. 162 (type). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 350 (compiled). — Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 182 (off Cape Point, 800 fathoms).

Family Synaphobranchidae

Body eel shaped. Head conic. Snout produced. Eye over middle of mouth cleft. Teeth in narrow bands or uniserial, rather small, conic, less numerous in young, present in jaws and on vomer. Tongue small. Mucous membrane of mouth black. Nostril before eye. Gill openings well developed, inferior, very close together, united into an oval groove below pectoral bases, separated by considerable isthmus within. Branchial openings in pharynx wide slits. Stomach very distensible. Muscular and osseus systems well developed.

Synbranchus immaculatus (part) Bloch, Naturg. Ausl. Fische, vol. 9, 1795, p. 87 (Tranquebar; not Surinam material). — Schneider, Syst. Ichth. Bloch, 1801, p. 524, pl. 103, fig. 1 (Tranquebar).

Rijmbranchus immaculatus Bleeker, Naturk. Tijdschr. Nederl. Indië, vol. 3, 1852, p. 438 (Bandjermassing; Calcutta).

Ophisternon hepaticus McClelland, Calcutta Journ. Nat. Hist., vol. 5, July 1844, p. 497 (204, 221), pl. 11, fig. 2 (dentition). Arracan Coast. — Mason, Burmah Nat. Resources, 1860, p. 703 (reference).

Symbranchus guttularis Richardson, Ichth. Voy. Erebus and Terror, 1844–48,

Skin with rudimentary imbedded scales, lanceolate and placed at right angles or small, rounded and imbedded in skin. Lateral line present. Vertical fins confluent around tail. Dorsal shorter than anal, begins close behind pectorals or behind vent, lower than anal. Pectoral well developed.

Deep sea eels.

Analysis of genera

a.[1] Gill openings confluent. Synaptobranchus.

a.[2] Gill openings separate. Diastobranchus.

p. 49, pl. 30, figs. 14–17. Dampier's Archipelago, Western Australia.

Tetrabranchus microphthalmus Bleeker, Naturk. Tijdschr. Nederl. Indië, vol. 2, 1851, p. 69. Bandjermassing, Borneo.

Unipertura laevis Kaup; Arch. Naturg., 1856, pt. 1, p. 76 (compiled).

1640

Genus Synaphobranchus Johnson

Synaphobranchus Johnson, Proc. Zool. Soc. London, 1862, p. 169. Type Synaphobranchus kaupii Johnson, monotypic.

Histiobranchus Gill, Proc. U. S. Nat. Mus., vol. , 1883, p. 255. Type Histiobranchus infernalis Gill, monotypic.

Head long, pointed. Mouth very long. Jaws about equal. Maxillaries lateral. Cardiform teeth sharp, broad band in each jaw; become uniserial forward, upper inner and lower outer ones somewhat enlarged. Vomerine teeth in narrow band anteriorly. Tongue long, not free. Nostrils large, anterior with short

tube, posterior close before eye. Gill openings inferior, horizontal, convergent forward, somewhat confluent at surface but separated by considerable isthmus within. Branchiostegals peculiar, moderate, attached to sides of compressed ceratohyal and epihyal, slender, abbreviated, moderately bowed, not curved up above opercle. Scales linear, placed at right angles. Dorsal low, begins behind vent. Anal rather high, rays slender, branched, not imbedded in skin. Vent near first fourth of body.

1642

Analysis of species

a.' Synaphobranchus. Dorsal begins behind vent.

b.' Dorsal begins length of head behind vent.

c.' Space between snout tip and pectoral origin equals space between latter and vent; pectoral 2 in head. pinnatus.

c.² Space between snout tip and pectoral origin 1 1/2 in space between latter and vent; pectoral 2 2/5 in head. brevidorsalis.

b.² Dorsal begins 2/5 length of head behind vent; pectoral 1 2/3 in head. iraconis.

a.² Histiobranchus. Dorsal begins before vent. bathybius.

Synaphobranchus pinnatus (Gray)

Muraena pinnata Gray, Cat. Fish Gronow,

1854, p. 19. No locality.

Synaphobranchus pinnatus Günther, Cat.

Fishes Brit. Mus., vol. 8, 1870, p. 23 (Madeira;

types of Synaphobranchus kaupii); Ann.

Mag. Nat. Hist., ser. , vol. 20, 1877, p. 445.

— Jordan and Gilbert, Bull. U. S. Nat. Mus.,

No. 16, 1882, p. 364 (compiled). — Günther,

Rep. Voy. Challenger, vol. 22, 1887, p. 252, pl.

62, fig. A (off Brazil, 1200 fathoms; south

of Japan, 565 fathoms; off Inosima, 345

fathoms; south of Philippines, 375 to 500

fathoms). — Vaillant, Exped. Travailleur

et Talisman, Poiss., 1888, p. 88, pl. 6, fig.

2 a–c (Morocco, Canaries, Soudan, Banc d'Arguin, Cape Verde Islands, Azores, 405 to 3200 meters). V— Goode and Bean, — Jordan and Davis, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 672 (Grand Banks of Newfoundland).

Mus., no. 47, pt. 1, 1896, p. 351 (compiled). — Alcock, Cat. Deep Sea Fishes Indian Mus., 1899, p. 195 (Arabian Sea, 459 to 824 fathoms; Challenger duplicate; American specimen). — Augmayer, Rés. Camp. Sci. Monaco, vol. 35, 1911, p. 84 (Cape Verde Islands, 692 meters; Azores, 1229 to 3465 meters; Canaries, 1000 meters). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912,

2 a–c (Morocco, Canaries, Soudan, Banc d'Arguin, Cape Verde Islands, Azores, 405 to 3200 meters). V— Goode and Bean, Oceanic Ichth., 1895, p. 143, pl. 44, fig. 164 N. 28° to 41° W. 65° to 88°, 129 to 1451 fathoms). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 351 (compiled). — Alcock, Cat. Deep Sea Fishes Indian Mus., 1899, p. 195 (Arabian Sea, 459 to 824 fathoms; Challenger duplicate; American specimen). — Jugmayer, Rés. Camp. Sci. Monaco, vol. 35, 1911, p. 84 (Cape Verde Islands, 692 meters; Azores, 1229 to 3465 meters; Canaries, 1000 meters). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912,

p. 9 (N. 44° W. 58° 30', 160 fathoms). — Roule, Rés. Camp. Sci. Monaco, vol. 52, 1919, p. 99, pl. 6, fig. 3a-b (1½ miles off Hierro, Canaries), 1786 meters; 6 miles south of São Miguel, 1187 meters; 30 miles east of Terceira, 1805 meters; 12 miles north east of São Miguel, 1998 meters). — Barnard, Ann. South African Mus., vol. 21, pt. 1, 1925, p. 183 (off Cape Point, Agulhas Banks, East London, 400 to 560 fathoms). — Tanaka, Figures Descr. Fishes of Japan, vol. 41, Dec. 23, 1927, p. 793, pl. 171, fig. 473 (Kushiro, Hokkaido).

Synaphobranchus kaupii Johnson,
Proc. Zool. Soc. London, 1862, p. 169,
fig. (dentition). Madeira.
Synaphobranchus affinis Günther, Ann.
Mag. Nat. Hist., ser. 4, vol. 20, 1877, p. 445.
Off Inosima [Enoshima], Japan. —
Jordan and Snyder, Proc. U. S. Nat. Mus.,
vol. 23, 1900, p. 348 (deep sea off Tokyo);
vol. 23, 1901, p. 844 (off Hamamatsu,
Tokyo, Misaki). — Franz, Abh. Kaiser.
Bayer. Akad. Wiss., vol. 4, Suppl. band
1, 1910, p. 11 (Yokohama; Aburatsubo). —
Jordan and Hubbs, Mem. Carnegie Mus.,
vol. 10, no. 2, June 27, 1925, p. 191 (Kushiro,
Shizuoka, Misaki).

Synaphobranchus tabetai Tanaka,
Zool. Mag. Tokyo, vol. 28, 1916, p. 257.
Off Watanoha, Province Rikuzen.

Synaphobranchus pinnatus var. paropinnis
Roule, Bull. Inst. Océanogr. Monaco,
No. 320, May 20, 1916, p. 1248. Southeast
of Portugal, 1500 meters.

Lynaphobranchus brevidorsalis Günther

Lynaphobranchus brevidorsalis Günther,
Rep. Voy. Challenger, vol. 22, 1887, p. 255,
pl. 63, fig. C. North of New Guinea, N. 2°33'
E. 144°4', 1070 fathoms; Hyalonema grounds
off Japan, N. 35°11' E. 139°28', 345 fathoms.
— Brauer, Deutsch. Tiefsee Exped. Valdivia,
vol. 15, Tiefsee Fische, 1906, p. 134 (S. 1°40'6"
E. 41°47'1", 693 meters). — Weber, Siboga
Expe., vol. 57, Fische, 1913, p. 55 (S. 2°37'7
E. 130°33'4; Banda or Celebes Sea). —
Weber and Beaufort, Fishes Indo
Austral. Archipelago, vol. 3, 1916, p. 335,
fig. 163 (Ceram Sea; Banda or Celebes Sea).
— Fowler, Mem. Bishop Mus.; vol. 10, 1928,

p. 37 (types of Synaphobranchus brachysomus). Synaphobranchus jenkinsi Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 845, fig. 2. Sagami Bay, off Enoshima, Japan. — Jordan and Hubbs, Mem. Carnegie Mus., vol. 10, No. 2, June 27, 1925, p. 191 (Misaki).

Synaphobranchus brachysomus Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, 1903 (1905), p. 583, fig. 232. Off Kauai, 409 to 550 fathoms; off Bird Island, Oahu, 222 to 8000 fathoms.

Depth 1 4/5 to 2 3/4 in head, 1 2/3 to 1 6 3/4 to caudal base; head 7 to 8 1/2, 2 2/5 to 3 4/5 to vent, width 3 2/3 to 3 3/4 in head length; combined head and trunk 2 2/5 to 2 4/5 to caudal base. Snout 2 2/3 to 4 in head from snout tip; eye 5 1/3 to 6 4/5, ~~in head~~ 1 4/5 to 2 in snout, slightly greater to subequal with interorbital; mouth cleft 1 3/5 to 1 2/3, extends 4/5 to 1 1/5 eye diameters behind eye; teeth in narrow bands in jaws, small, patch on premaxillary and head

of vomer; interorbital 5 1/2 x 3/4 to 8 in head from snout tip, convex. Gill opening 5 1/8 to 6 1/2.

Scales rudimentary, oblong, very small, imbedded in skin and extended forward to eyes.

Dorsal origin variably over to head length posterior to vent, fin height 1/2 to 1 in eye; anal height 3 1/5 to 4 4/5 in total head length; caudal 4 1/5 to 5 1/6; pectoral 2 1/8 to 2 3/5.

Largely uniform dark brown.

Under surface ~~of~~ head and gill openings more or less dusky to blackish. Iris pale brown with grayish.

Indian and Pacific Oceans.

10199 and

10200. D. 5467. Atulayan Island (S.), S. 79° W., 2.5 miles (N. 13° 35' 27" E., 123° 37' 18"), east coast Luzon. In 480 fathoms. June 18, 1909. Length 467 mm.

403 to

10293. D. 5470. Atulayan Island (E.), S. 68° W., 6.7 miles (N. 13° 37' 30" E., 123° 41' 09"), east coast Luzon. In 560 fathoms. June 18, 1909. Length 364 mm.

10264. D. 5410. Bagacay Point Light, S. 37° W., 7.2 miles (N. 10° 28' 45" E., 124° 5' 30"), between Cebu and Leyte. In 385 fathoms. March 18, 1909. Length 385 mm.

2343. D.5215. Palanog Light, S. 5° 30' E., 8.50 miles (N. 12° 31' 30" E. 123° 35' 24"), east of Masbate. In 604 fathoms. April 21, 1908. Length 398 mm.

3369. D.5406. Ponson Island (N.), S. 88° E., 10.2 miles (N. 10° 49' 3" E. 124° 22' 30"), Dupon Bay, Leyte, vicinity. In 298 fathoms. March 17, 1909. Length 257 mm.

3875. D. 5601. Limbe Island (NE.), N., 20.7 miles (N. 1° 13' 10" E. 125° 17' 5"), Gulf of Tomini, Celebes. In 765 fathoms. November 13, 1909. Length 196 mm. This and next both short belly and lower surface of head neutral dusky or dark neutral gray.

4096. D. 5656. Clark Point, N. 67° W., 14.5 miles (S. 3° 17' 40" E. 120° 36' 45"), Gulf of Boni, Celebes. In 484 fathoms. December 19, 1909. Length 224 mm.

1654

Synaphobranchus iraconis Jordan and Snyder

Synaphobranchus iraconis Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 844, fig. 1. Off Myiaka, Rikuchu, Japan, 200 fathoms.

1653

Lynaphobranchus bathybius Günther

Lynaphobranchus bathybius Günther,

Ann. Mag. Nat. Hist., ser. 4, vol. 20, 1877,

p. 445. middle of North Pacific, south of

Yeddo, midway between Cape of Good Hope

and Kerguelen's Land; Rep. Voy.

Challenger, vol. 22, 1887, p. 254, pl. 62,

fig. B (type; south of Yeddo, 1875 fathoms;

midway between Cape of Good Hope and

Kerguelen Island, 1375 fathoms.

Histiobranchus bathybius Jordan and Davis,

Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p.

673 (Bering Straits). — Goode and Bean,

Oceanic Ichth., 1895, p. 145 (reference).

— Jordan and Evermann, Bull. U. S. Nat.

Mus., No. 47, pt. 1, 1896, p. 352 (compiled).

Histiobranchus infernalis Gill, Proc.

U. S. Nat. Mus., vol. 6, 1883, p. (253) 255.

N. 38° 30' 30" W. 69° 8' 25", 1731 fathoms.

Synaphobranchus infernalis Jordan and Davis, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 673 (compiled). — Goode and Bean, Oceanic Ichth., 1895, p. 145, pl. 44, fig. 165 (N. 38° 30' 30" W. 69° 8' 25", 1731 fathoms). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 352 (compiled).

Synaphobranchus australis Regan, Trans. Royal Soc. Edinburgh, vol. 49, pt. 2, May 23, 1913, p. 235, pl. 8, fig. 5 (albino). S. 48° 6" W. 10° 5'; 1742 fathoms.

Genus Diastobranchus Barnard

Diastobranchus Barnard, Ann. South African Mus., vol. 13, pt. 8, 1923, p. 441.

Type Diastobranchus capensis Barnard.

Diastobranchus capensis Barnard

Diastobranchus capensis Barnard, Ann. South African Mus., vol. 13, pt. 8, 1923, p. 441. Off Cape Point, 470 fathoms; vol. 21, pt. 1, June 1925, p. 185, pl. 8, fig. 7 (type).